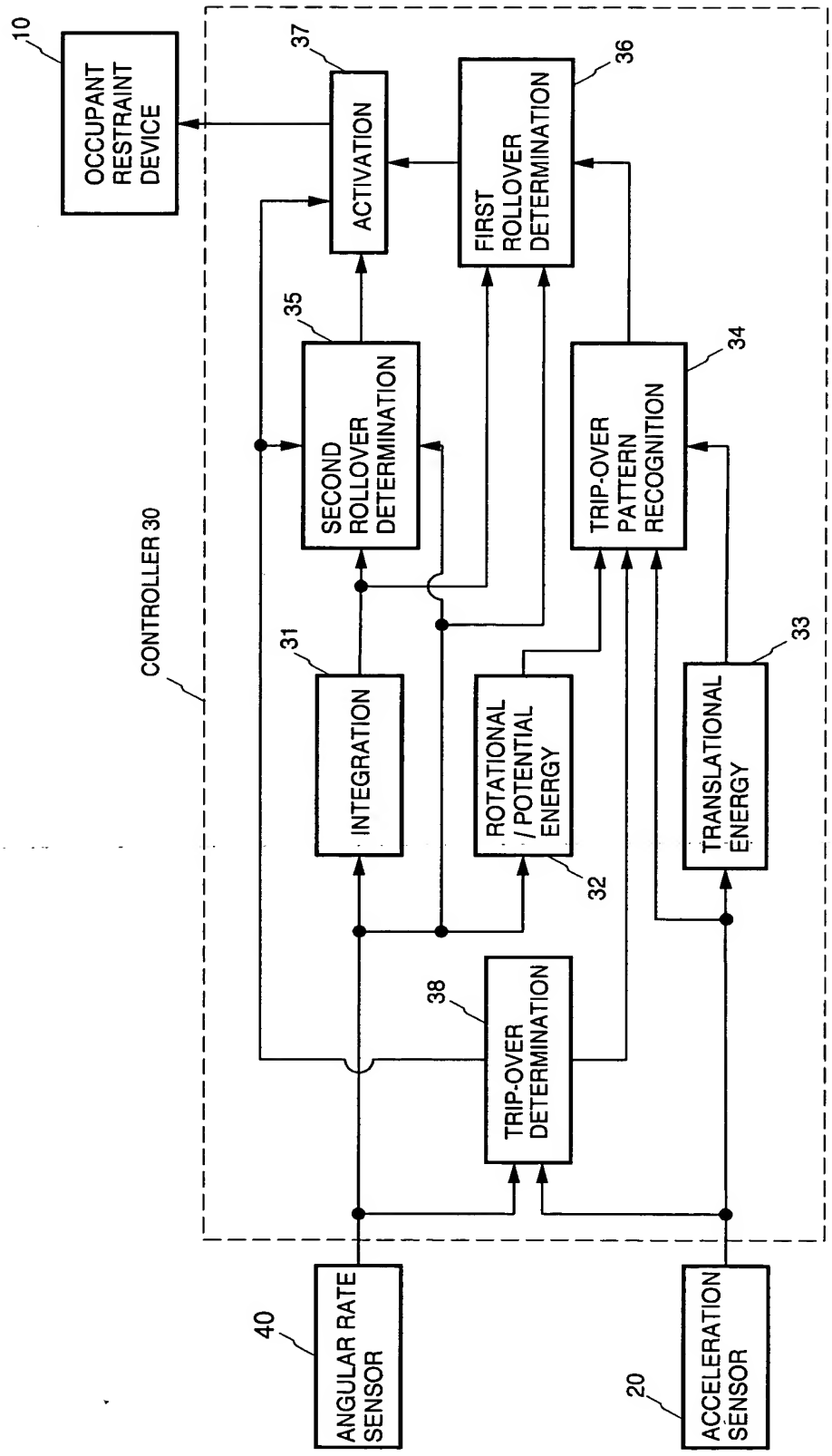
10
OCCUPANT RESTRAINT DEVICE
37
ACTIVATION
36
FIRST ROLLOVER DETERMINATION
35
SECOND ROLLOVER DETERMINATION
34
TRIP-OVER PATTERN RECOGNITION
CONTROLLER 30
31
INTEGRATION
ROTATIONAL / POTENTIAL ENERGY
32
33
TRANSLATIONAL ENERGY
38
TRIP-OVER DETERMINATION
40
ANGULAR RATE SENSOR
20
ACCELERATION SENSOR

FIG. 1A

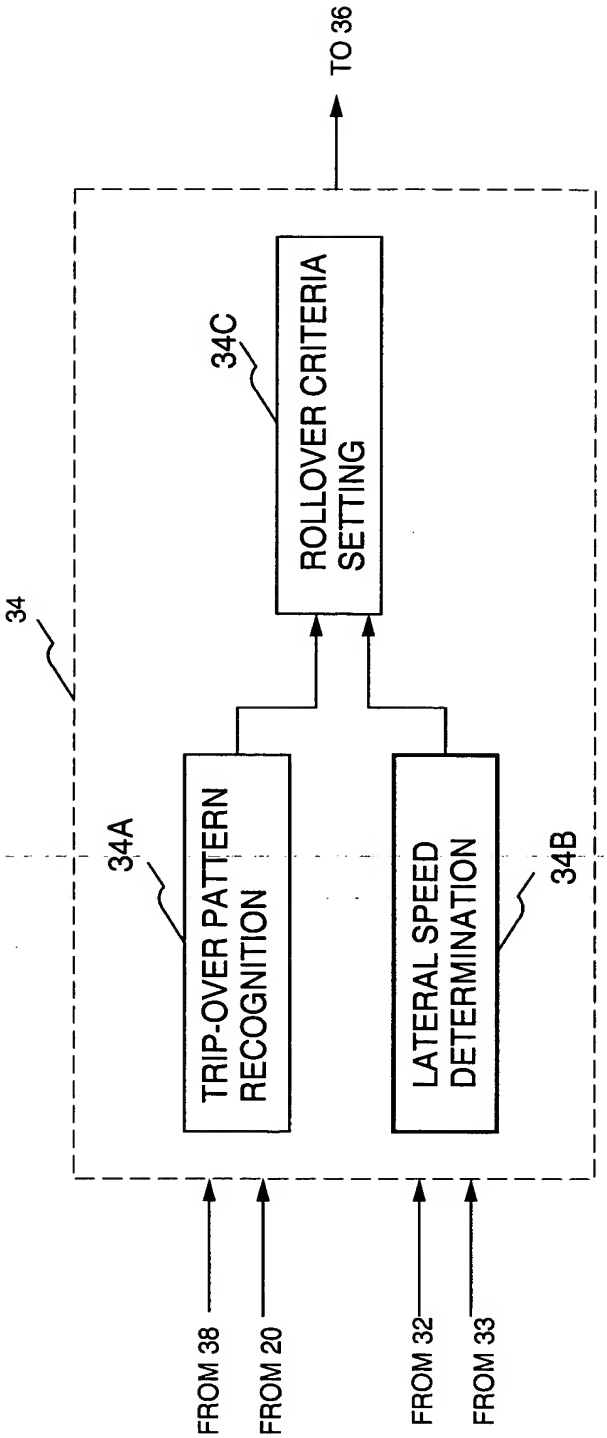
TO 36
34
34C
ROLLOVER CRITERIA SETTING
34A
TRIP-OVER PATTERN RECOGNITION
LATERAL SPEED DETERMINATION
34B
FROM 38
FROM 20
FROM 32
FROM 33

FIG. 1B

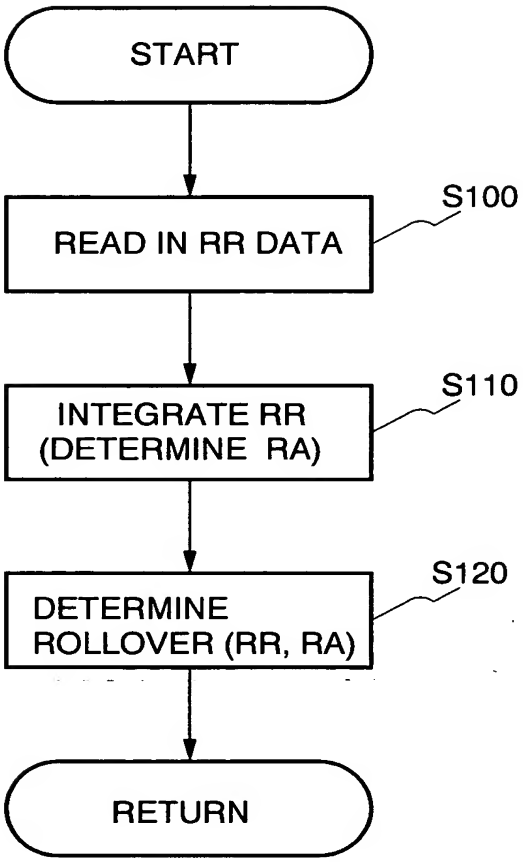
START
READ IN RR DATA
S100
INTEGRATE RR
(DETERMINE RA)
S110
DETERMINE
ROLLOVER (RR, RA)
S120
RETURN

FIG. 2

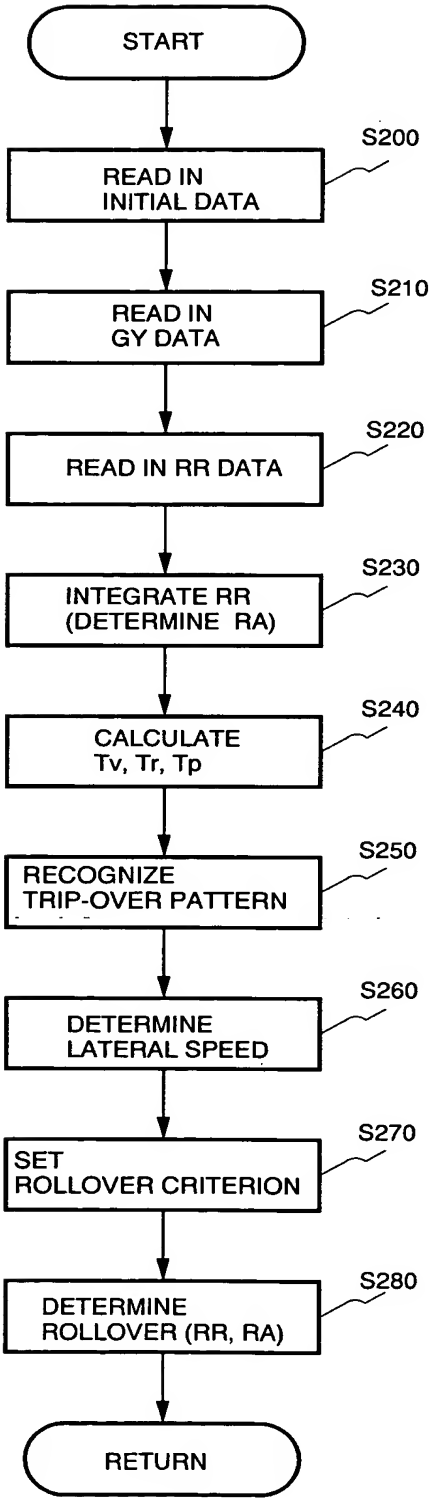
START
S200
READ IN INITIAL DATA
S210
READ IN GY DATA
S220
READ IN RR DATA
S230
INTEGRATE RR (DETERMINE RA)
S240
CALCULATE Tv, Tr, Tp
S250
RECOGNIZE TRIP-OVER PATTERN
S260
DETERMINE LATERAL SPEED
S270
SET ROLLOVER CRITERION
S280
DETERMINE ROLLOVER (RR, RA)
RETURN

FIG. 3

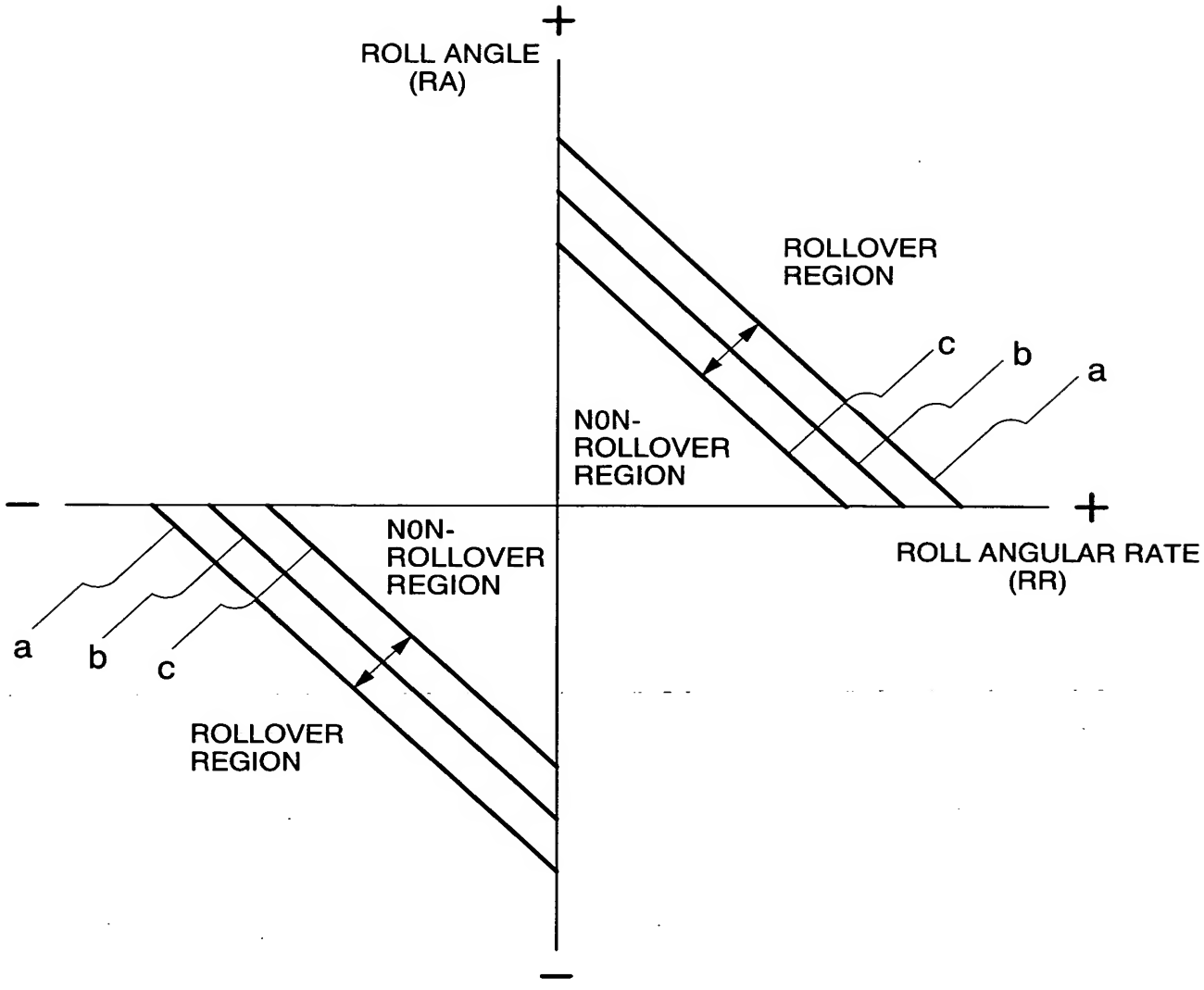
+
ROLL ANGLE
(RA)
ROLLOVER
REGION
c
b
a
N0N-
ROLLOVER
REGION
−
+
N0N-
ROLLOVER
REGION
ROLL ANGULAR RATE
(RR)
a
b
c
ROLLOVER
REGION
−

FIG.4

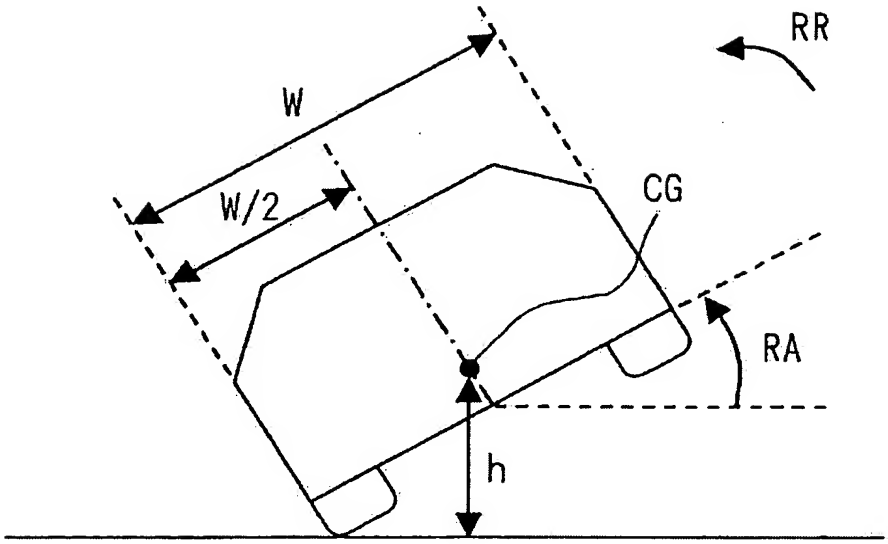

FIG. 5

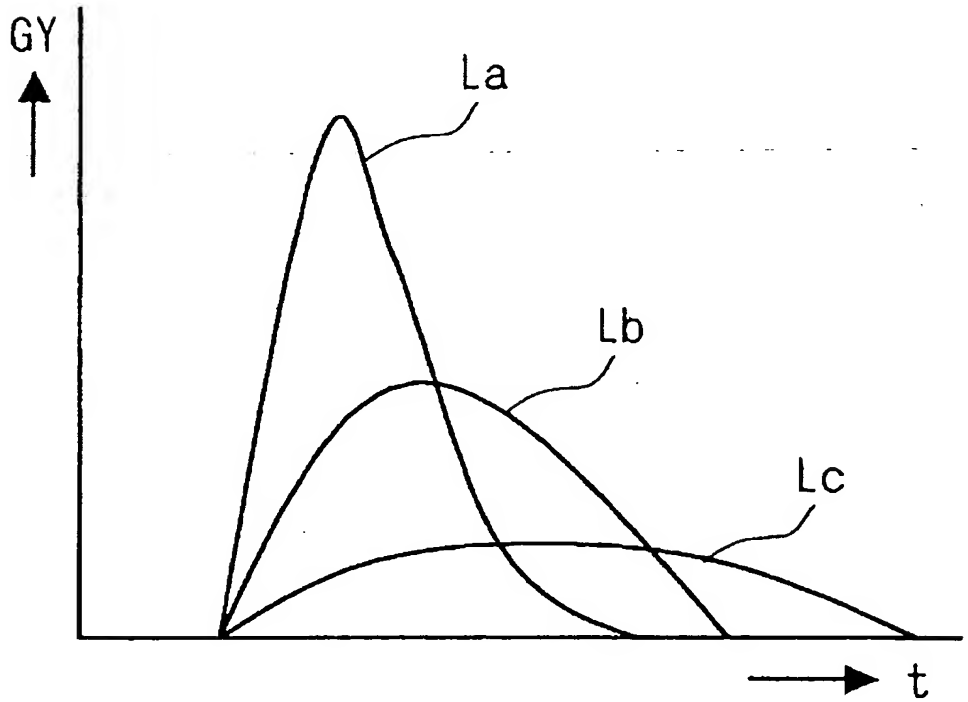

FIG. 6

CURBSTONE TRIP-OVER, SUV TRIP-OVER

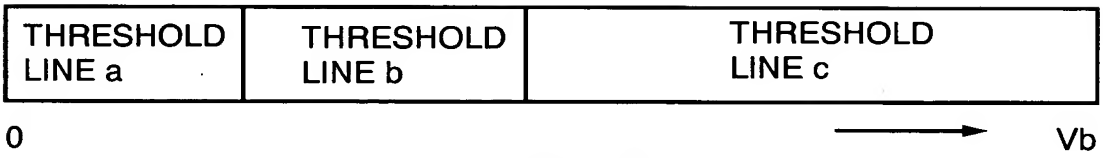

FIG.7A

ROUGH ROAD TRIP-OVER

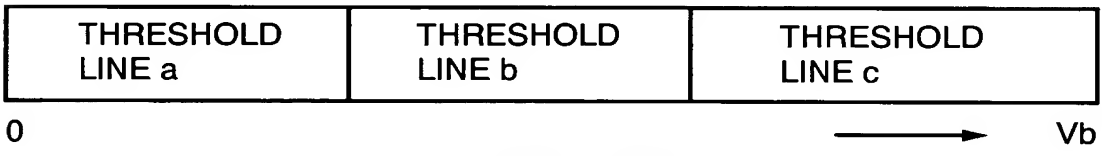

FIG. 7B

SANDY PLACE TRIP-OVER

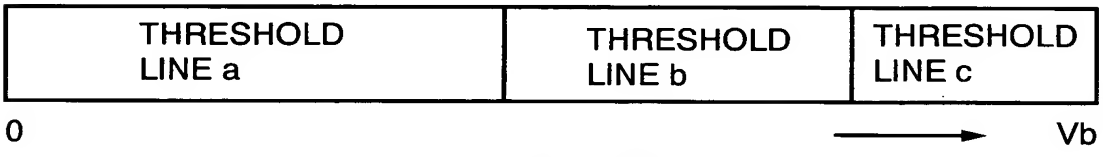

FIG. 7C